was present although the steel was cast as specified. Steel cast according to specification but with a composition altered so that carbon and nickel contents corresponded to the lower limit and tungsten and chromium to the upper limit was investigated. The steel was cast in the form of wedges (5 kg) which were heat treated by the method used for normal castings. The heat treated specimens were additionally heated at 800 °C for 50, 100, 150, 200 and 500 h. Determination of the mechanical properties and microstructure of the specimens showed that on prolonged heating (above 100 h) the steel suffers considerable changes in the structure (formation of sigma phase) leading to loss of plasticity. Thus the changes in the composition of steel from 21-11-3B to 21-11-2.5 improved the structural stability of steel at elevated temperatures and prolonged retention (ageing) but did not preclude loss of plasticity. It is recommended that the specification for the steel should be narrowed to: Ni 11.5-13.0%; Cr 19-22%; W 2.4-2.8%. Further investigation (not described) confirmed that this composition guarantees structural stability and preservation of the mechanical properties on prolonged retention of the steel at high temperatures. There are 4 figures and 2 tables.

S/810/62/000/000/011/013

AUTHOR: Khoroshaylov, V.G.

TITLE: The effect of short-term overheating on the properties of the heat-resistant alloy ЭИ-617 (EI-617).

SOURCE: Metallovedeniye i termicheskaya obrabotka; materialy konferentsii po metallovedeniyu i termicheskoy obrabotke, sost. v g. Odesse v 1960 g. Moscow, Metallurgizdat, 1962, 258-262.

TEXT: The paper describes the results of an experimental investigation on the need for the removal of residual stresses, previously produced by machining of parts, that may attain 80-100 kg/mm^2 within a surface layer 10-25 μ thick and which, when added to the operating stresses, may exceed the failure strength of a steel part temporarily overheated above its aging temperature. The changes in properties of the Ni alloy EI617 after short-term overheatings were to be determined, and the possibility of their recovery was to be established. The alloy contains (in %): C 0.09, Si 0.5, Mn 0.35, Cr 14.9, Fe 1.5, Ti 2.0, W 5.7, Mo 3.6, V 0.2, Ca 0.02, and B 0.005. The 45-mm-diam rod specimens were first quenched from 1,180-1,200°C (after 2-hr holding), requenched from 1,040-1,060° (after 4-hr holding), and aged for 16 hrs at 790-810°. All cooling was done in air. Specimens were overheated to 900, 950, 1,000, and 1,050°C for 15, 30, 45, and 60 min, and were then air-cooled, after which a portion of the specimen was aged at 800° for 16 hrs, and another portion of the

Card 1/3

specimens was subjected to a repeat cycle of the same treatment. Microanalysis did not reveal any noticeable structural changes. Overheating to 900° for 15 min reduces the hardness R_C by 1-2, after 60 min by 3-4, whereas overheating to 1,000° reduces R_C by 10 in 15 min and by 11-12 in 60 min. Overheating to 1,050° reduces R_C less than overheating to 950-1,000°, and the R_C reduction decreases with increasing time. The softening at 900 and 1,000° is attributed to coagulation of the hardening phase. Apparently, at 1,050°, a simultaneous dissolution of the hardening phase occurs, and the subsequent air cooling produces in part a dispersive hardening. Aging restores the initial hardness in all instances of overheating. Repeated cycling does not alter the general shape of the R_C-variation curves. Overheating to 900° reduces the strength of the alloy; the reduction grows with increasing holding time. Subsequent aging does not fully restore the initial strength, even though the R_C is fully restored. Evidently coagulation prevails over the dissolution of the excess phase. This result is intensified with recycling. Overheating to 1,050° reduces the strength less, and subsequent aging restores it fully. Cycling does not alter this result. Elongation determinations show that heating to 900° for 15 min increases the plasticity somewhat, and subsequent aging restores the initial value. Plasticity does not increase with exposure time, and subsequent aging may reduce it to less than its initial value. Overheating to 1,050° increases the plasticity noticeably, but subsequent aging reduces it to its initial value. Cycling does not

alter this picture. Long-term heat-resistance tests were performed at 850° and stresses of 20 kg/mm^2. Specimens were tested after overheating to 900 and 1,050° for 60 min. 60-min overheating to 900° does not reduce the heat resistance, and subsequent aging restores it. Cycling has like results, except that the scatter in heat-resistance levels increases after aging. Overheating to 1,050° for 60 min does not reduce the heat resistance; subsequent aging increases it and yields even more stable results. Cycling reduces the heat resistance slightly, both after the overheating and after the aging. Thus, 60-min overheating to 900° is more dangerous than a like overheating to 1,050°C. Repeated overheating to 900° is not admissible, since individual specimens show an impaired level of heat resistance. There are 4 figures; no tables or references.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinin (Leningrad Polytechnical Institute imeni M. I. Kalinin).

L 10632-63 EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3000864 S/0286/63/000/002/0061/0061

58

AUTHOR: Khoroshaylov, V. G.; Terekhov, K. I.; Korobkov, A. V.; Khimushin, F. F.

TITLE: Cast heat-resistant alloy. 18 Class 18, No. 102664

SOURCE: Byul. izobreteniy i tovarnykh znakov, no. 2, 1963, 61

TOPIC TAGS: cast heat-resistant alloy, heat-resistant alloy

ABSTRACT: The patent introduces an iron-base heat-resistant cast alloy containing 0.26 to 0.38% C, 0.7% Si, 7 to 9% Mn, 11 to 13% Cr, 9 to 11% Ni, 1.2 to 1.7% V, 1.5 to 3% W, 0.15 to 0.25% Ti, and 0.003 to 0.008% B.

ASSOCIATION: none

SUBMITTED: 25Dec54 DATE ACQ: 28May63 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

ch/ls

Card 1/1

L 13264-65 EWP(e)/EWT(m)/EPF(n)-2/EWA(d)/EWP(t)/EPR/EWP(b) Ps-4/Pu-4/Pad/
Pb-4 AMD JD/MJW/HW/JG/JT/AT/WH

ACCESSION NR: AT4045961 S/2563/64/000/234/0089/0095

AUTHOR: Khoroshaylov, V. G.

TITLE: On the problem of increasing the heat resistance of nickel-base alloys

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 234, 1964. Metallovedeniye (Metallography), 89-95

TOPIC TAGS: heat resistant alloy, nickel base alloy, alloy heat resistance, ANTs alloy

ABSTRACT: The theoretical principles used in the development of heat-resistant Fe-, Cr-, or Co-base alloys are summarized and the applications, advantages, and limitations of each principle are reviewed. The resulting conclusions show that these types of alloys have maximum heat resistance when their crystal structures have lattices with the highest coordination number. Further increases in the concentration of elements which form the base of the solid solution bring about no substantial increase in heat resistance. Heat resistance can

Card 1/3

L 13264-65

ACCESSION NR: AT4045961

12

be increased by additional alloying of the solid solution with W, Mo, Ta, or Nb, which increases the recrystallization temperature of the alloy and retards diffusional processes. Small additions of rare-earth elements (La, Nd, Pr, Ce, and others) and B are very effective. By improving the heat resistance of the grain boundary and by strengthening the grains, such additions increase the alloy heat resistance by 20—30% with a simultaneous increase in ductility. The alloy heat resistance can be increased substantially by alloying the solid solution with elements which form various strengthening phases, that is, carbides of the MeC, $Me_{23}C_6$, and Me'M"C type; intermetallic compounds of the Ni_3Ti, Ni_3Al, and $Ni_3(Al, Ti)$ type; and Laves phases of the AB_2, FeW_2, $FeMo_2$, and $FeNb_2$ type. The intermetallic compounds of the Ni_3Ti, Ni_3Al, and $Ni_3(Ti, Al)$ type are, at the present time, the basic strengtheners for Ni-base alloys for service at 700—1000C. Recently, a new heat-resistant ANTs alloy (composition unspecified) on an Ni_3Al-base has been developed. Research work is also being conducted on the substitution of In and Hf for Al and Ti. New alloys based on the use of two strengtheners are being developed for prolonged service at high temperatures. The underlying principle is to

Card 2/3

L 13264-65

ACCESSION NR: AT4045961

use an Ni_3Al, a $Cr_{23}C_6$, or a similar strengthener in the initial stage of service with a second strengthener, which forms Laves phases, taking over after 250—1000 hr of operation. Orig. art. has: 6 figures.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3128

Theory of Alloying

Card 3/3

BOGOYAVLENSKIY, K.N.; KHOROSHAYLOV, V.G.

Investigating the deformability of the TSAM 10-5 alloy. Trudy LPI no.234:96-103 '64. (MIRA 17:11)

L 11248-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)
ACC NR: AT6000927 IJP(c) JD/JG SOURCE CODE: UR/2563/65/000/251/0028/0030

AUTHOR: Khoroshaylov, V. G.; Bogoyavlenskiy, K. N.; Rossomakho, Ya. V.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Effect of the annealing temperature and medium on the properties of molybdenum

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy. no. 251, 1965. Metallovedeniye (Metal science), 28-30

TOPIC TAGS: molybdenum, sintered ~~molybdenum~~ metal, annealing, ~~molybdenum annealing~~, ~~annealed molybdenum~~ metal property

ABSTRACT: Cold-rolled strips of 99.9%-pure sintered molybdenum, 150—180 x 0.2 x 400—800 mm, were annealed in a vacuum of $1.5—1.4 \cdot 10^{-2}$ mm Hg or in dry hydrogen at 800—1400C for 45 min to determine the optimum conditions for heat treatrent. In the as-delivered condition, molybdenum had a hardness HV of 275—300, a tensile strength of 100—130 kg/mm^2, and an elongation of 0.5—2%; the microstructure was typical for a cold-worked metal. Annealing lowered the hardness and strength and increased the ductility (see Fig. 1). The decrease in tensile strength and hardness by annealing at 800—950C is associated with the relieving of stresses caused by cold working. The texture disappeared completely after annealing at 1100C; grain growth began at 1200C. Annealing at 1200C for more than 45 min had no additional

Card 1/2

L 11248-66

ACC NR: AT6000927

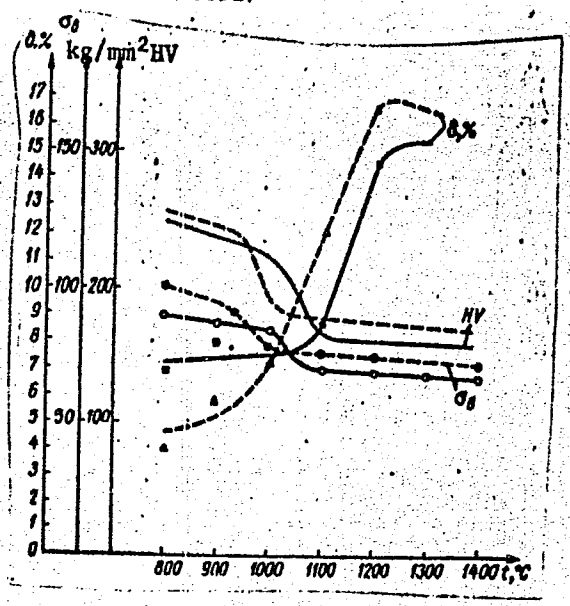
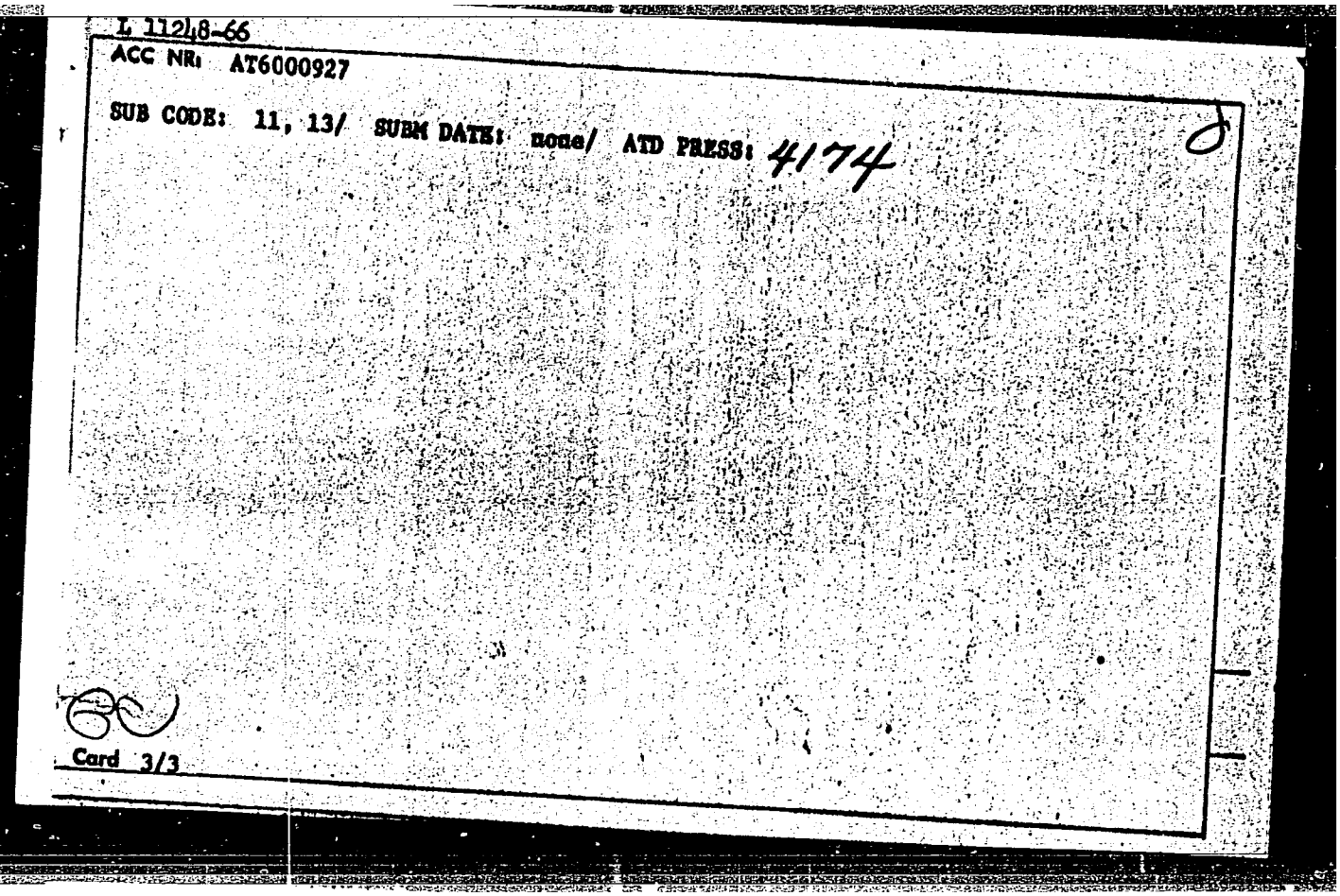


Fig. 1. Effect of the annealing temperature and medium on the properties of molybdenum

—— Annealing in hydrogen
—— Annealing in vacuum

effect on the strength and ductility. The temperature of recrystallization for vacuum-annealed metal was 100—150C higher than that for metal annealed in hydrogen; this was attributed to some leak of air through the walls of the quartz ampules at high temperatures. Orig. art. has: 1 figure. [MS]

Card 2/2



L 11248-66
ACC NR: AT6000927

SUB CODE: 11, 13/ SUBM DATE: none/ ATD PRESS: 4174

Card 3/3

KHOROSHAYLOV, V.G.; BOGOYAVLENSKIY, K.N.; ROSSOMAKHO, Ya.V.

Effect of the medium and the annealing temperature on the properties of molybdenum. Trudy LPI no. 251:28-30 '65
(MIRA 19:1)

KHOROSHAYLOV, V.G.; NEMTSOV, N. Yu.

Using commercial nitrogen for the preparation of a controlled atmosphere. Trudy LPI no. 251:31-34 '65 (MIRA 19:1)

L 10829-67 EWT(d)/EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(h)/EWP(l) IJP(c) JD/HW/JG

ACC NR: AR6034747 SOURCE CODE: UR/0276/66/000/007/V030/V030

38

AUTHOR: Bogoyavlenskiy, K. N.; Khoroshaylov, V. G.; Ris, V. V.

TITLE: Straightening thin-walled molybdenum profiles by stretching

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 7V245

REF SOURCE: Tr. Leningr. politekhn. in-ta, No. 260, 1965, 89-92

TOPIC TAGS: molybdenum, tensile stress, straightening, molybdenum profile, molybdenum part

ABSTRACT: A unit has been developed at the Leningrad Polytechnic Institute for straightening shaped thin-walled profiles by heating the part up to 250C in an argon atmosphere in the process of straightening. The optimum values of the specific tensile stresses during straightening profiles with walls 2-mm thick are 60—80 kg/min^2. Orig. art. has: 3 figures. I. Gendlina. [Translation of abstract]

SUB CODE: 11/

Card 1/1 UDC: 621.982.47

ACC NR: AT7003267 (A) SOURCE CODE: UR/2563/66/000/263/0062/0071

AUTHORS: Bogoyavlenskiy, K. N. (Doctor of technical sciences, Professor); Khoroshaylov, V. G.; Khyubner, S.

ORG: none

TITLE: Connecting high-strength reinforcements by the method of pressing sleeves in the cold state

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 263, 1966. Mashiny i tekhnologiya obrabotki metallov davleniyem (Machinery and technology of metalworking by pressure), 62-71

TOPIC TAGS: reinforced concrete, metal pressing, tensile test, high strength steel, steel alloy, iron, hardness/ 80S high strength steel, 18KhNVA high strength steel, Kh12M high strength steel, 25GS steel, 35GS steel, 10 steel, 45 steel, 40Kh steel, St 3 steel, Armco iron

ABSTRACT: The results of tests of reinforcing steel for reinforced concrete constructions are presented. These steel reinforcements were press-fitted by means of steel and Armco iron sleeves, and the tests were performed with a 100-ton tensile testing machine. The force required to create a mechanical connection of a reinforcement of 80S high-strength steel that was not inferior in strength to the metal of the reinforcement is found (see Fig. 1). Plastic metals of low mechanical strength (such

Card 1/2

ACC NR: AT7003267

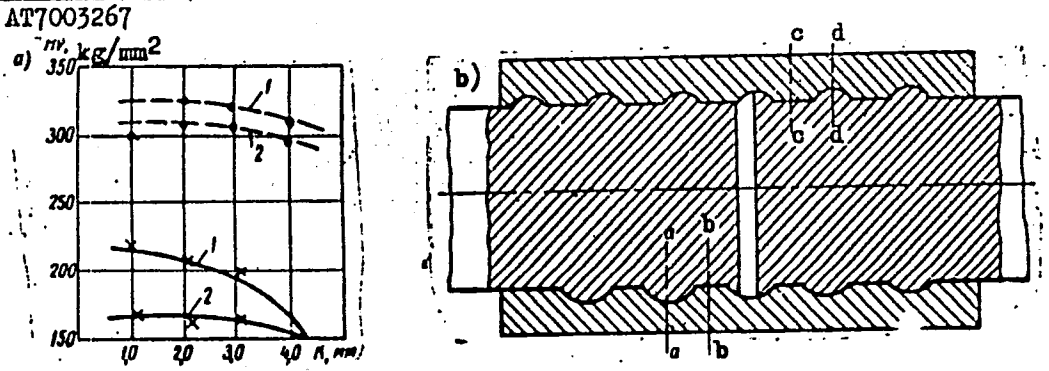


Fig. 1. Graph of hardness HV of connecting sleeve and reinforcing rod after press fitting (a) as a function of point of contact K of rod with sleeve (b): 1 - cross section a-a (d-d); 2 - cross section b-b (c-c); x - sleeve; • - rod

as 10 steel and Armco iron) are recommended for the connecting sleeves. The best results are obtained with square pressing blocks which should be made of a high-strength steel such as 18KhNVA or Kh12M. The length of the sleeves should be 2--2.5 times the diameter of the reinforcing rod. Devices for press-fitting the sleeves are discussed. The authors thank engineers S. G. Skvortsov and R. A. Gershanok. Orig. art. has: 2 tables, 1 photograph, 1 graph, and 6 diagrams.

SUB CODE: 11, 13, 14/ SUBM DATE: none

Card 2/2

ACC NR: AT7003262 (N) SOURCE CODE: UR/2563/66/000/263/0039/0041

AUTHOR: Boroyavlenskiy, K.N. (Doctor of technical sciences; Professor); Gyulikhandanov, Ye.L.; Ris, V.V.; Khoroshaylov, V.G.

ORG: none

TITLE: Investigation of the ductility of the VN-2 niobium alloy

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 263, 1966. Mashiny i tekhnologiya obrabotki metallov davleniyem (Machinery and technology of metalworking by pressure), 39-41

TOPIC TAGS: niobium alloy, ductility, sheet metal, durability, hardness, annealing, metal cutting, elongation / VN-2 niobium alloy

ABSTRACT:

To ascertain the feasibility of forming thin-wall VN-2 niobium-alloy shapes, cold-rolled alloy specimens 70 mm long, 10 mm wide and 0.2 or 0.5 mm thick, cut at an angle of 0.45° or 90° to the direction of rolling, were tested in the as-rolled and vacuum-annealed (0.5 hr at 1000—1200) conditions. It was found that vacuum annealing lowered the hardness and strength from 95—107 kg/mm^2 and 225—245 kg/mm^2 to 55—90 kg/mm^2 and 165—200 kg/mm^2, respectively, depending on the annealing temperature.

Card 1/2 UDC: 621.97.001.5

ACC NR: AT7003262

At the same time, the elongation increased from 1—2.5% for as-rolled alloy to 23—24% for specimens cut at an angle of 45°, and 15—19% for longitudinal and transverse specimens annealed at 1200C. A considerable anisotropy of mechanical properties was observed in annealed specimens. Specimens cast at 45° to the direction of rolling had a lower strength and a higher ductility than longitudinal and transverse specimens. The best combination of mechanical and technological properties of niobium-alloy sheets was attained by vacuum annealing (not in argon) at a temperature of 1100—1150C. Thin-wall shapes can be formed from VN-2 alloy sheets 0.2 or 0.5 mm thick by bending, if the bend radius is maintained equal to or greater than the sheet thickness. Orig. art. has: 2 tables [ND]

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002/
ATD PRESS: 5115

Card 2/2

ACC NR: AT7003263 SOURCE CODE: UR/2563/66/000/263/0048/0050

AUTHOR: Bogoyavlenskiy, K. N. (Doctor of technical sciences; Professor); Samarin, Yu. F.; Borisov, V. G.; Khoroshaylov, V. G.; Gyulikhandanov, Ye. L.

ORG: none

TITLE: Roll bending of structural shapes from solution-annealed heat-treatable aluminum alloys

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 263, 1966. Mashiny i tekhnologiya obrabotki metallov davleniyem (Machinery and technology of metalworking by pressure), 48-50

TOPIC TAGS: aluminum alloy, annealing, fabricated structural metal, alloy, heat treatment, bending, roll bending/D16-Am aluminum alloy

ABSTRACT:

A study has been made to determine the maximum allowable time interval between solution annealing and roll bending of aluminum-alloy structural shapes. D16-AM aluminum alloy specimens (2—3 mm thick, 71—73 mm wide and 500 mm long), solution annealed at 495C and quenched in water, were roll bent within 20 to 120 minutes from the time of quenching. For comparison, some specimens were bent 200 hr after quenching (solution annealed and artificially aged), and some were bent after solution annealing and slow cooling. It was found that cracks

Card 1/2 UDC: 621.97.001.5

ACC NR: AT7003264

appeared in 2 mm thick specimens rolled 55—60 min and in 3 mm thick specimens rolled 45—50 min from the time of quenching. There were no cracks in solution-annealed and slowly cooled specimens. Solution-annealed and artificially aged specimens fractured completely along the bend line. It is concluded that solution-annealed and water-quenched D16-AM aluminum alloy strips can be roll bent with the same bending parameters (r_0/t = 0.6-2.0) as annealed strips, but the bending should be completed within 45—55 min after quenching. Orig. art. has: 2 figures and 1 table. [TD]

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 5115

Card 2/2

ACC NR: AT7004520 SOURCE CODE: UR/2563/66/000/268/0052/0058

AUTHOR: Bogoyavlenskiy, K.N.; Gyulikhandanov, Ye.L.; Ris, V.V.; Khoroshaylov, V.G.

ORG: none

TITLE: Investigation of TsM-2a molybdenum alloy

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 268, 1966. Metallovedeniye (Metal science), 52-58

TOPIC TAGS: molybdenum alloy, ~~cold-rolled alloy~~ alloy, ~~alloy strength~~, ~~alloy~~ ductility, ~~alloy~~ annealing, ~~alloy microstructure~~/TsM2a alloy

ABSTRACT:

Experiments have been made to improve the poor ductility of cold-rolled TsM-2a molybdenum-alloy sheets, 0.2, 0.3 and 0.5 mm thick, used for forming intricate parts. To determine the effect of the annealing temperature, time and ambient media on mechanical properties and microstructure, test specimens were cut from the sheets along and at 45 degrees to the direction of rolling, and annealed for 15 min in argon at 1100—1200°C, in hydrogen at 1100—1400°C, or in a vacuum of 10^{-3} and 10^{-5} mm Hg at 1100 to 1250 and 1250—1450°C, respectively. Annealing at 110—1150°C for 15 min produced the best combination of mechanical properties, regardless of

Card 1/2 UDC: none

ACC NR: AT7004520

the ambient media used; against a 20—30% decrease in the tensile strength of the as-rolled sheets, the elongation increased from 1.0—2.0% to 3—7% and the "depth of cup" in Ericksen ductility tests increased from 3.0 to 4.2 mm. Annealing for longer than 15 min brought about no marked changes in the mechanical properties and microstructure. Changes in the alloy strength level with annealing at 1150—1250°C were practically independent of the ambient media, although a decrease in elongation was observed in sheets annealed in hydrogen and in vacuum. Full recrystallization of strain-hardened sheets occurred at 1350—1400°C. This resulted in a 40—70% decrease in the strength, while an appreciable anisotropy of the properties sharply impaired the workability of the material. Recrystallized sheets had an uncrystallized surface layer 0.04—0.07 mm thick, which constituted 20—40% of the cross section area of the investigated sheets. This layer, resulting probably from contamination of the surface layers in rolling molybdenum alloys in the air, significantly impaired the mechanical and technological properties of the material. Formation of this layer can be prevented by rolling the material in an inert atmosphere or by removing the material after hot pressure working. Orig. art. has: 3 figures and 4 tables.

[MS]

SUB CODE: 11, 13/ SUBM DATE: none/ ATD PRESS: 5116

Card 2/2

ACC NR: AT7004521 SOURCE CODE: UR/2563/66/000/268/0059/0065

AUTHOR: Khoroshaylov, V. G.; Gutkina, I. B.

ORG: none

TITLE: Investigation of EP126 steel

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 268, 1966. Metallovedeniye (Metal science), 59-65

TOPIC TAGS: CHEMICAL PLANT EQUIPMENT, CONTAINING heat resistant steel, ~~chromium~~ nickel steel, tungsten ~~containing~~ steel, molybdenum ~~containing~~ steel, niobium ~~containing~~ steel, steel property, steel structure, TENSILE STRENGTH, YIELD STRENGTH, ELONGATION, METAL AGING, EP126 STEEL

ABSTRACT: EP126 steel (19—22% Cr, 25—30% Ni, 4.8—6.0% W, 2.8—3.5% Mo, 1.5% Mn and 0.7—1.3% Nb), developed primarily for parts of chemical equipment used at 700—1000°C for up to 100 hr, has been tested for its suitability for service up to 3000 hr. Steel specimens annealed at 1200°C and air cooled were aged at 750, 800, 850, 900 and 950°C for 10, 1000, 1500 or 3000 hr, respectively. It was found that prolonged aging at 750—800°C increased the tensile and yield strength from the respective initial 80.2—80.4 kg/mm^2 and 38.0—39.0 kg/mm^2 to 91.0—94.0 kg/mm^2 and 49.4—50.0 kg/mm^2. At the same time, the elongation dropped from 44.0—47.4 to 10.4—12.0% and the reduction of area from 45.8—47.5 to 13.9—19.0%. Aging at 850—950°C had a considerably milder effect on the strength and ductility. The 3000 hr rupture strength at 800, 850, and 900°C amounted to 10, 6, and 3.5 kg/mm^2,

Card 1/2 UDC: none

ACC NR: AT7004521

respectively. Inasmuch as the EP126 steel was found to have fairly high mechanical properties and structural stability at 750—900°C, it can be recommended for prolonged service up to 3000 hr duration. Orig. art. has: 8 figures and 5 tables. [ND]

SUB CODE: 11/ SUBM DATE: none/

Card 2/2

ACC NR: AT7004524 SOURCE CODE: UR/2563/66/000/268/0078/0088

AUTHOR: Korobkov, A. V.; Lapkin, D. T.; Sitnikova, L. I.; Khoroshaylov, V. G.

ORG: Leningrad Polytechnical Institute (Leningradskiy politekhnicheskiy institut)

TITLE: Concerning the improved properties of dispersion hardening heat-resistant alloys and steels

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 268, 1966. Metallovedeniye (Metal science), 78-88

TOPIC TAGS: heat resistant alloy, heat resistant steel, metal heat treatment, high temperature strength, ~~aging process~~, dispersion hardening, metal aging

ABSTRACT: The effects of heat treatment on the mechanical properties of the heat-resistant alloys EI437BU and EI617, as well as the steel EI787, were studied. Samples of EI437BU and EI787 were cut from billets, and forgings of turbine discs and buckets. The alloy EI437BU was given two types of heat treatments: (1) air quenching after 8 hrs at 1080°C + aging for 16 hrs at 750°C and air cooling, (2) just aging for 16 hrs at 750°C. Tensile and impact testing were done at room temperature, 500, 600, and 700°C. Creep testing was done at 600, 700, and 750°C. Treatment #2 raised the strength, ductility, and impact resistance above that for #1 by as much as 10%. The creep resistance of #1 at 600°C and 70 kg/mm^2 was higher than for #2, but at 700 and

Card 1/2

ACC NR: AT7004524

750°C the creep resistances were similar. Annealed and cold worked (30 and 65% deformation) rods of EI617 were also given two heat treatments: (1) air quenching after 2 hrs at 1190°C + air quenching after 4 hrs at 1050°C + aging at 800°C for 16 hrs and air cooling, (2) just aging at 800°C for 16 hrs and air cooling. Room temperature tensile data and stress rupture data at 550 and 600°C were given. Again higher strength, ductility, and creep resistance resulted from #2. Similar conclusions were obtained for EI787 steel. Macrostructures of the three materials showed that after #1 a nonuniform grain distribution resulted, while #2 gave a fine-grained homogeneous structure. The dislocation arrangements occurring after the different heat treatments were discussed. Higher strengths resulted because of greater dislocation density. The plasticity was correlated with dislocation mobility. Orig. art. has: 6 tables, 2 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003

Card 2/2

ACC NR: AT7004525 SOURCE CODE: UR/2563/66/000/268/0089/0096

AUTHOR: Korobkov, A. V.; Lapkin, D. T.; Sitnikova, L. I.; Khoroshaylov, V. G.

ORG: Leningrad Polytechnical Institute (Leningradskiy politekhnicheskiy institut)

TITLE: The effect of holding time at high temperatures on the properties of economical grades of heat-resistant steel

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 268, 1966. Metallovedeniye (Metal science), 89-96

TOPIC TAGS: austenitic steel, stainless steel, boron steel, heat resistant steel, heat treatment, ~~aging process~~, high temperature steel, impact strength, metallographic examination, metal aging

ABSTRACT: A study was done on the effects of aging EI696 and EI696A austenitic steels up to 500 hrs at 600 and 650°C. Also studied were the effects of reheating to 700 and 750°C after the first aging treatment, and the influence of boron additions. Four heats of steel were made having the following compositions: 0.06-0.08% C, 0.32-0.85% Mn, 0.31-0.82% Si, 11.24-11.77% Cr, 18.25-20.1% Ni, 2.66-3.08% Ti, 0.26-0.50% Al, nil--0.015% B, 0.005-0.012% S, and 0.016-0.06% P. Rod samples were heated to 1170°C, held for 2 hrs, air cooled, reheated to 750°C for 16 hrs, and air cooled. Aging was done by heating to 600 or 650°C for 16, 100, 200, and 500 hrs. Some samples were aged again

Card 1/2

ACC NR: AT7004525

at 700 or 750°C for 16 hrs. Tensile testing was done at room temperature and at 600, 650, and 700°C. Impact resistance was measured at room temperature and a metallographic examination of the heat treated samples was made. The aging treatment at 600 and 650°C for 100-500 hrs changed the mechanical properties: the tensile strength increased by 10-15% and impact strength decreased by 25-50%. A recovery of properties in EI696 and EI696A occurred after reheating to 750°C and holding for 16 hrs. A eutectic phase developed in EI696 containing 0.015% B which segregated at the grain boundaries and caused the greatest change in mechanical properties. In the low boron steels, $Ni_3(Ti, Al)$ caused strengthening after aging at 600 and 650°C. The restoration of mechanical properties by reheating to 700 and 750°C was caused by resolution of the $Ni_3(Ti, Al)$ phase. Orig. art. has: 3 figures, 4 tables.

SUB CODE: 11/ SUBM DATE: none

Card 2/2

S/122/60/000/002/015/018
A161/A130

AUTHORS: Vyaznikov, N. F.; Khoroshavylov, V. G.; - Candidates of Technical Sciences; Popandopulo, A. N., Engineer

TITLE: The heating of turbine blades in a salt bath

PERIODICAL: Vestnik mashinostroyeniya, no. 2, 1960, 71 - 72

TEXT: Heating in a salt bath is being used for heat treatment of steel but not for forging. One of the reasons is the salt film left on metal. But heating in a salt bath gives quick and even heating, the metal surface is not oxidized, and automatic accurate heat control is possible. These advantages are particularly important for turbine blades. Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnical Institute im. M. I. Kalinin) jointly with Nevskiy zavod im. V. I. Lenina (Neva Plant im. V. I. Lenin) have found means for removing the salt film after salt bath - by quick and brief immersion of the billet into cold water. The film instantaneously turned into a solid crust and separated leaving the metal surface perfectly free from salt. A worker of average skill easily completed the immersion in 2 - 3 sec, and the billets heated to 1,250°C cooled not more than 20 - 25°C. The experiment material were turbine blade billets

Card 1/3

S/122/60/000/002/015/018
A161/A130

The heating of turbine blades in a salt bath

from heat resistant 2Kh13 (2Kh13), 15Kh11MF (15Kh11MF) and EI726 (EI726) steel, 60 to 75 mm in diameter and 200 to 350 mm length, of the following chemical composition (Table 1):

(%)	C	Si	Mn	Cr	Ni	Mo	W	V	Nb
2Kh13	0.20	0.6	0.06	14.0	0.6	-	-	-	-
15Kh11MF	0.16	0.5	0.6	11.5	0.6	0.6	0.4	-	-
EI726	0.10	0.8	1.5	14.0	20.0	-	-	2.5	1.0

The billets were heated to 1,230 - 1,250°C in СП-2-35 (SP-2-35) salt bath, and in an electric furnace with silite heaters for comparison. The temperature of both the bath and the furnace was controlled with a platinum/platinum-rhodium thermocouple. Heating time in the furnace was 25 - 30 sec per 1 mm billet diameter, and in the salt bath only 10 - 12 sec/mm. To cut down the heating time further and to prevent moisture from getting into the salt bath, billets were preheated in a chamber furnace with 200 - 700° temperature. Billets preheated to 600° were heated finally in a salt bath, at 3 - 4 times faster rate than in the furnace. Heating to higher temperature in the furnace was avoided to prevent oxidization of metal. Salt of two different compositions was tried - a) 100% barium chloride, and b) 78% barium chloride + 22% sodium chloride. The second composition developed intense

Card 2/3

KAYZERMAN, M.M., mayor meditsinskoy sluzhby; ZAVRAZHIN, M.K., podpolkovnik meditsinskoy sluzhby; KNYAZEV, S.V., podpolkovnik meditsinskoy sluzhby; KOBYAKOV, N.I., podpolkovnik meditsinskoy sluzhby; DOKUCHAYEV, G.M., podpolkovnik meditsinskoy sluzhby; PLETNEV, N.N., polkovnik meditsinskoy sluzhby; KHOROSHCHEV, V.D., podpolkovnik meditsinskoy sluzhby; GORBACHIK, Ye.D., podpolkovnik meditsinskoy sluzhby; DRUKER, Yu.S.; NAZAROV, K.M.; KOMOGOROV, P.R., polkovnik meditsinskoy sluzhby; KLIMENKO, A.V., podpolkovnik meditsinskoy sluzhby; RYAKHOVSKIY, I.Ye., podpolkovnik meditsinskoy sluzhby; IVAN'KOVICH, F.A.; GUBIN, S.V., kapitan meditsinskoy sluzhby; ZOTOV, I.G., kapitan meditsinskoy sluzhby; LEONOVA, Ye.I.; BUNTOVSKIY, P.A., mayor meditsinskoy sluzhby; GERASIMOV, A.N., podpolkovnik meditsinskoy sluzhby; GUR'YEV, I.A., kapitan meditsinskoy sluzhby; KOLDOBSKIY, S.Z., mayor meditsinskoy sluzhby

Abstracts. Voen. med. zhur. no.10:74-79 O '65.
(MIRA 18:11)

Khoroshcho, Ye.V.

GOFMAN-KADOSHNIKOV, P.B.; KHOROSHCHO, Ye.V.; SMIRNOV, M.I.

Role of chemical factors in the migration of nematodes. Dokl.AN SSSR 103 no.6:1127-1130 Ag '55. (MLRA 9:1)

1.Smolenskiy gosudarstvennyy meditsinskiy institut. Predstavlene akademikom K.I.Skryabinym.
(Nematoda)

KHOROSHCHO, Ye. V.

USSR / Zooparasitology. Parasitic Protozoa. G

Abs Jour : Ref Zhur - Biol., No 12, 1958, No 53001

Author : Khoroshcho, Ye. V.
Inst : Smolensk Medical Institute
Title : Effect of Bile on the Migration of Invasive Ascaris Larvae.

Orig Pub : Tr. Smolenskogo med. in-ta, 1957, 6, 199-205

Abstract : While studying environmental factors of the first order (particularly the effect of bile (B)) causing a definite trend in the movement of nematode larvae during their migration, the method of concentric gelatin rings was used, by which 36 experiments were conducted with 708 larvae of Toxocara canis. B in large concentrations (30-50%) at first increased the movement reactions of larvae, and subsequently inhibited them: the larvae would curve into a spiral and cease movement (over a 3-hour period, of 84 larvae, 2.3% entered from a central drop with gelatin into a peripheral ring of pure

Card 1/2

KHOROSHEV, Aleksey Fedorovich; LAGUTINA, Ye.V., red.; LYUDKOVSKAYA, N.I., tekhn. red.

[First aid before the doctor comes] Pervaia dovrachebnaia pomoshch'. Moskva, Gos. izd-vo med. lit-ry Medgiz, 1961. 74 p. (MIRA 14:8)

(FIRST AID IN ILLNESS AND INJURY)

87865
S/114/60/000/004/005/009
E194/E355

26.2141

AUTHOR: Khoroshev, G.A., Engineer

TITLE: Pump Vibration Caused by Cavitation

PERIODICAL: Energomashinostroyeniye, 1960, 6, No. 4, pp. 26 - 30

TEXT: Certain types of vibration in hydraulic centrifugal pumps and similar machines are of much higher frequency than can be attributed to rotation effects and they are usually ascribed to cavitation. Not a great deal of work has been done on the origin of cavitation that induces vibration. The information is required to enable effective steps to be taken to diminish such vibration. Accordingly, tests were made on a series of centrifugal pumps. The qualitative picture of the origination of vibration due to cavitation that was obtained can be extended to other types of hydraulic machines. Tests were made on a variety of centrifugal pumps using a special test rig on which pumps could be tested with open or closed cycles. A special air-injection device was fitted to the intake pipe so as to alter the

Card 1/9

87865

S/114/60/000/004/005/009
E194/E355

Pump Vibration Caused by Cavitation

proportions of dissolved and dispersed air in the water. Cavitation was measured by constructing cavitation characteristics supplemented by visual observations. The pick-ups were of linear characteristic in the audio-frequency range and the results were analysed at frequencies up to 8 000 c.p.s. The total vibration level was measured in two wide frequency bands of 25-1 000 c.p.s. and 25 - 20 000 c.p.s. The measurements, in combination with spectral analysis and visual observation, gave a clear idea of the influence of cavitation on the spectral composition of vibrations. Curves are plotted of the general level of vibration as a function of the cavitational reserve for centrifugal pumps of different constructions. Analysis of the curves indicates that there are two phases of cavitation, air and steam cavitation. Air cavitation is associated with the evolution of air in eddies and eddy zones originating in the blading channels as the flow

Card 2/9

87865
S/114/60/000/004/005/009
E194/E355

Pump Vibration Caused by Cavitation

breaks away from the blade surface; among further causes there is the presence of surface discontinuities as the flow leaves the blades. If the pump operates with many eddies, the pressure in them may fall below the saturation pressure of air, so that air bubbles are formed. These bubbles travel with the flow and as they are subject to variable external and internal forces they radiate vibrations of high intensity over a wide frequency band. In a particular case considered, the onset of vibration coincided with a cavitational reserve of more than 35 m of water, corresponding to an excess intake pressure of more than 2,5 kg/cm^2. Curves of the spectral composition of the vibrations show that air cavitation raises the overall level sharply, by 10 - 15 db, whilst the high-frequency components are increased by 10 - 20 db. Vibrations in the middle audio-frequency range, which are a danger to the machine, do not alter much in total level. The different values of cavitational reserve at which the

Card 3/9

87855
S/114/60/000/004/005/009
E194/E355

Pump Vibration Caused by Cavitation

intensity of the vibration due to air cavitation commences to grow depends on the intensity of eddy formation which, in its turn, mainly depends on the speed. The low intensity of the spectral components of vibration in the frequency range above 1 000 c.p.s. indicates that vibration caused by the actual eddies, turbulent pulsations of flow, friction and other hydrodynamic forces are without much importance as independent sources of vibration in pumps and similar machines. Eddies can only increase vibration if they contain air bubbles. This was checked by injecting small air bubbles into the inlet pipe, using water that had been first de-aerated. In this case the injection of a small quantity of air caused a marked increase of 5-30 db in the high-frequency vibrations.

Vapour cavitation is associated with the formation of water-vapour bubbles and cavities in the immediate neighbourhood of the inlet edges of the runner blades. This is due

Card 4/9

87865
S/114/60/000/004/005/009
E194/E355

Pump Vibration Caused by Cavitation

to local pressure drops to the vapour pressure of water at the given temperatures. Visual observations show that three stages of vapour cavitation may be distinguished in pumps, namely, initial, the stage of developed cavitation, and the break-away stage.
The initial visible stage of vapour cavitation depends mainly on the shape of the inlet edge of the blades and the angle of attack. This initial stage of cavitation does not sharply raise the general level of vibration in the audio-frequency range. The stage of developed vapour cavitation commences with the appearance of visible cavitation and is assumed to continue to the point where the cavitation curves change in shape. There is a steady enlargement of the cavitation zone on the blades and the general level of vibration in the frequency range 25 - 20 000 c.p.s. increases steadily without sharp changes. In this stage the bubbles are mostly of air and vapour and gradually become vapour only. In the purely vapour

Card 5/9

Pump Vibration Caused by Cavitation

cavitation stage the intensity of vibration depends to a considerable extent on the saturation of the water with air. The less air in the water, the greater the speed with which the bubbles collapse; hence, the greater the intensity of the vibration. Investigations show that the general level of vibration when a pump operates with water saturated with air is always 3 - 10 db lower than with de-aerated water. Visual observations of cavitation on runner blades carried out with different proportions of air in the water showed that the degree of development of cavitation remains constant and does not depend on the air content of the water. It is only the structure of the actual cavitational region that alters. Accordingly this kind of cavitation may be reduced by injecting air into the intake. The air bubbles, which have a favourable influence on high-frequency vibrations, can somewhat impair the intake characteristics of the pumps and in some cases the critical cavitational reserve may be affected. However, with the pumps tested, an artificial injection of air was an

87865

S/114/60/000/004/005/009
E194/E355

Pump Vibration Caused by Cavitation

effective means of reducing high-frequency vibration caused by vapour cavitation; the reduction ranged from 5 to 15 db and in some cases 20 to 30 db. With this type of cavitation damage is observed to the flow channels at some distance from the cavitation zone. As the air content of the water is increased this type of damage is diminished. The stage of developed cavitation, like the preceding initial stage, presents no threat to the machine as a whole but it causes intensive damage to flow channels and promotes pump vibration which it is often desirable to limit.
The breakaway stage of cavitation is accompanied by a complete breakdown in pump operations. The cavitation cavities cover a large part of the runner blades and periodically break away from the blades so that motion of liquid in the pump assumes a pulsating character. The whole equipment is subjected to heavy shocks. The head, the output and efficiency fall off. Analysis of the cavitation curves for this case shows that the general level of vibration in the frequency range

Card 7/9

87855
S/114/60/000/004/005/009
E194/E355

Pump Vibration Caused by Cavitation

25 - 1 000 c.p.s. is independent of the value of the cavitational reserve, the air content of the liquid and the method of creating reduced inlet pressures. For a given design of pump and speed it depends mainly on the amplitude of the mechanical sources of vibration. A marked increase in vibration in the frequency range 25 - 1 000 c.p.s. is definitely related to the breakaway stage of cavitation as determined from the cavitation curves. The vibration always begins to increase sooner than the cavitation curves commence to drop. Vibration caused by the breakaway stage of cavitation presents considerable danger to the machine and its foundations. Means of reducing such vibrations are, firstly, correct selection of operating conditions and, secondly, improvement in the cavitational properties of pumps. Pump cavitational properties can mainly be improved by increasing the width of the intake and the runner, using

Card 8/9

87865

S/114/60/000/004/005/009
E194/E335

Pump Vibration Caused by Cavitation

blades of double curvature and using blades of sickle-shaped profile. Concerted application of these recommendations affords considerable improvement in the cavitational properties of the pumps. There are 6 figures, 1 table and 4 references: 2 Soviet and 2 non-Soviet.

Card 9/9

KHOROSHEV, G.A. (Leningrad)

Application of the theory of similitude to the study of vibrations produced by cavitation. Akust.zhur. 5 no.4:472-479 '59. (MIRA 14:6)

(Cavitation)

KHOROSHEV, G. A. Cand Tech Sci -- Study of [redacted] vibrations of centrifugal water pumps operating under conditions of cavitation." /Len/, 1961 (Len Shipbuilding Inst). (KL, 4-61, 202)

S/170/63/006/001/008/015
B187/B102

26.2140

AUTHOR: Khoroshev, G. A.

TITLE: Influence of a wall on the collapse of cavitation bubbles

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 1, 1963, 59-65

TEXT: The influence of a rigid inelastic wall on the radical movement of spherical cavitation bubbles is studied. The energy equation yields the differential equation for the radial movement near the wall:

$$\dot{R}^2 = \frac{2P_0}{3\rho_0\left(1+\frac{R}{2b}\right)}\left\{\left(\frac{R_{max}}{R}\right)^3 - 1 - \frac{\delta}{k-1}\times\left[\left(\frac{R_{max}}{R}\right)^{3k} - \left(\frac{R_{max}}{R}\right)^3\right]\right\}. \quad (4)$$

where b is the distance from the wall, R is the radius of the air-vapor bubble, $\dot{R} = dR/dt$, P_0 is the pressure in the bubble, k is the adiabatic exponent and $\delta = P_{vap}/P_{air}$ is a parameter for the air content. For $b \to \infty$ the result of W. Güth (Acustica, v. 6, no.6, 1956) is obtained for

Card 1/3

Influence of a wall on the ...

the cavitation in the unbounded medium. As can be seen from (4), the radial velocity decreases not only with the approximation to the wall but also with increasing air content. For the value $k = 4/3$ which is close to reality the formulas derived are reduced considerably. With this value

$$\bar{p} = \frac{1}{\left(1+\frac{z_{min}}{d}\right)^3}\left[\frac{1+3\delta}{3}\frac{1}{z_{min}^2} - \frac{4}{3}z_{min} + \frac{1}{d}\left(\frac{\delta}{z_{min}^2} - z_{min}^2\right)\right]. \quad (8)$$

is valid for the dimensionless radius $z = R/R_{max}$, $z_{min} = \frac{3\delta}{1+3\delta-\delta^{1,6}}$ and for $d = 2b/R_{max}$, the dimensionless distance of the bubble center from the wall. In addition, R_{max} and the time for the collapse of the cavitation bubble are calculated. The wall has its maximum effect if $d \leq 10$. The radiation intensity of the cavity is the smaller the higher the air content in the liquid. An artificial increase of the air content in the liquid may considerably reduce the pressure when the cavitation bubbles collapse near the wall. Thus vibration and destruction of the material can be prevented, as appears in two diagrams showing the

Card 2/3

Influence of a wall on the ...

dependence of the pressure and collapse time of the cavitation bubbles on the distance of the wall at varying air content of the liquid. For $\delta > 0,1$ the Rayleigh formula for $T(\delta=0)$ cannot be used; e.g., the real value for $\delta = 0.1$, $d = 2$ deviates from the Rayleigh value by 76%. There are 4 figures.

SUBMITTED: March 22, 1962

Card 3/3

KHOROSHEV, G.A.

Collapse of air-vapor filled cavitation hollows. Akust. zhur. 9 no.3:340-346 '63. (MIRA 16:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut imeni A.N. Krylova, Leningrad.
(Cavitation) (Sound waves)

KHOROSHEV, I. G.

USSR/Medicine - Typhus Dec 53

"Comparative Data on Some Methods of Serum Diagnosis of Typhus, N. P. Levchenko, M. N. Intsertov, I. G. Khoroshev, Voronezh Inst of Epidemiol and Microbiol

Zhur Mikro Epid i Immun, No 12, p 57

By using the reaction of prolonged complement fixation carried out at low temps with the aid of specific rabbit serum, the antigen could be detected in the blood of typhus patients in the first days of the disease. The reaction becomes less pronounced and is only weakly positive on the 14th day of the disease. Reaction of agglutination of rickettsiae with serum of patients was positive in 99% of cases and appeared on the 3rd day, that of Weil-Felix was positive in 69.1% of cases starting with the 4th day. Rickettsaie diagnostic prepns are preferable to proteus prepns.

274T47

OLSUF'YEV, N.G.; TSVETKOVA, Ye.M.; BORODIN, V.P.; KOROLEVA, A.P.; SIL'CHENKO, V.S.; KHOROSHEV, I.G.; MYASNIKOV, Yu.A.; PERFIL'YEVA, Z.A.; KRATOKHVIL' N.I.; VAYSTIKH, M.A.; RAVDONIKAS, O.V.; BARANOVA, N.K.; ZIMINA, V.Ye.; TORMASOVA, L.N.; USTIN-PETROVA, T.F.; AREF'YEV, S.S.; KONKINA, N.S.; KUL'BA, A.P.; MAL'TSEVA, N.K.; SHELANOVA, G.M.; SORINA, A.M.; BRANITSKAYA, V.S.; PRUDNIKOVA, M.N.

Tularin from a vaccinal strain for epicutaneous use. Zhur. mikrobiol.epid. i immun. 27 no.9:22-28 S '56. (MLRA 9:10)

1. Iz Instituta epidemiologii i mikrobiologii im. N.F.Gamelei AMN SSSR i protivotulyaremiynykh stantsiy Stalingradskoy, Voronezhskoy, Tul'skoy, Plavskoy, Omskoy, Krasnodarskoy, Moskovskoy i Smolenskoy.
(TULAREMIA, diagnosis,
tularin epicutaneous test (Rus))

OLSUF'YEV, N.G.; YEMEL'YANOVA, O.S.; UGLOVOY, G.P.; SIL'CHENKO, V.S.; KHOROSHEV, I.G.; YEZHOVA, Ye.N.; BESSONOVA, M.A. ; VEDENEYEVA, Ye. V.; AREF'YEV, S.S.; SHELANOVA, G.M.; SORINA, A.M.; BORODIN, V.P.; KOROLEVA, A.P.; SUVOROVA, A.Ye.; ONIKHIMOVSKAYA, V.A.; STOLYAROVA, A.D.; BYSTROVA, K.A.; REPINA, R.F.; MYASNIKOV, Yu.A.; LEVACHEVA, Z.A.; YEGIAZARYAN, K.K.; RAVDONIKAS, O.V.; SARMANEYV, A.P.

Optimal periods for testing skin reaction in subjects inoculated against tularemia with a dry live vaccine and vaccinal, reactogenic and immunogenic properties of this preparation. Zhur. mikrobiol. epid. i immun. 32 no.6:92-98 Je '61. (MIRA 15:5)

1. Iz otdela prirodnoochagovykh infektsiy Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, otdelov Osobo opasnykh infektsiy Voronezhskoy, Leningradskoy, Moskovskoy, Smolenskoy, Stalingradskoy, Tambovskoy, Tul'skoy, oblastnykh sanitarno-epidemiologicheskikh stantsiy i Omskogo instituta epidemiologii, mikrobiologii i gigiyeny.
(TULAREMIA) (VACCINES)

KHOROSHEV, I. I.

Khoroshev, I. I. - "'Peki' as exchangers for dextrin and vegetable fat in tubing", Trudy Rost. n/D in-ta s.-kh. mashinostroyeniya, Issue 4, 1948, p. 91-100.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

KHOROSHEV, I. I.

Khoroshev, I. I. and Suprun, A. S. - "Methods of reducing the consumption of coke and the content of carbon in the cupola melting of malleable cast iron", Trudy Rost. n/D in-ta s.-kh. mashinostroyeniya, Issue 4, 1948, p. 107-09.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

KHOROSHEV, I. I.

Khoroshev, I. I. - "Malleable cast iron chilled rapidly in the second stage of graphitization", Trudy Rost. n/D in-ta s.-kh mashinostroyeniya, Issue 4, 1948, p. 25-35.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

KHORCSHEV, I. I.

33156

Margantsovistyy Antifrikts-ionnyy Kovkiy Chugun, Ego Svoystva I Tekhnologiya Polucheniya. Trudy Rost. N/D In-Ta S.-Kh. Mashinostroyeniya, Vyp. 5, 1949, c, 21-35

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

KHOROSHEV, I. I.

Perlitoferritnyi kovkii chugun, ego konstruktsionnye svoistva i tekhnologiia polucheniia. (Vestn. Mash., 1950, no. 6, p. 21-27)

Pearlite malleable iron, its structural properties and technique of production.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

USSR/Metals - Cast Irons, Manufacture Nov 51

"Production of High-Quality Inoculated Gray Iron in Cupola Furnace," I. I. Khoroshev, Cand Tech Sci, G. Ye. Shifrin, Engr, Rostov Inst Agr Mach Bldg, "Krasnyy Aksay" Plant

"Litey Proizvod" No 11, pp 24-26

Investigates optimum addns of ferrosilicon for castings of 30-, 60-, 90-, and 120-mm diams, effect of pouring temp and amt of inoculant on microstructure and mech properties of cast iron, and influences of inoculation on mech properties.

198T83

USSR/Metals - Cast Irons, Manufacture Nov 51
(Contd)

shrinkage and quasi-isotropism of cast iron at considerable deviations from normal chem compn, in particular, with increased contents of S, Mn and C.

198T83

KHOROSHEV, I. I.

KHOROSHEV, I. I.

(1)

Manganous malleable iron with spheroidized cementite. I. I. Khoroshev. *Liteinoe Proizvodstvo* 1953, No. 7, 26-9.—This iron has high strength, ductility, and wear resistance together with good machinability and casting characteristics. Exptl. work showed that irons contg. C 2.60-2.70, Si 1.03-1.11, and Mn 0.82-1.44% have in spheroidized state 48-38.2 kg./sq. mm. tensile strength, 6.5-10.6% ductility, and a 144-192 Brinell hardness. The best values for tensile strength and elongation are assocd. with the combined C content of 0.45-0.50% and Mn taken in proportion, Mn = (0.7 Si + 2 S)%. Three heat-treatments were found adequate for obtaining good results. In the 1st, iron is quenched from 760 to 750° and spheroidized for 10 hrs. at 700°; in the 2nd, slow cooling below 760 and 720° is replaced by faster cooling to 685-715° and holding at this temp. for 10 hrs.; the 3rd method added to the conventional malleabilizing cycle of 10-hr. heating at 730°. Conventional 30-hr. malleabilizing cycle produced in these irons a tensile strength of 32.2-38.1 kg./sq. mm. and an elongation of 4.8-18.7%. Influence of individual factors on the quality of finished iron is examd. in detail. J. D. Cat

KHOROSHEV, I. I.

C 2

Producing malleable iron containing spheroidized cementite. I. I. Khoroshev. *Litelnoe Proizvodstvo* 1953, No. 10, 18-21.—Mech. properties of conventional malleable iron can be greatly increased by a heat-treatment converting a portion of its C into spheroidized cementite. This treatment generally employs quenching or normalizing already malleabilized iron and then tempering it. The results of this group of treatments applied to iron with C 2.7, Si 0.99, Mn 0.33, S 0.138, and P 0.12% are given with comments on individual treatments, the optimum of which consists in quenching from 810° and tempering at 675° for 4 hrs., or in normalizing from the same temp. but tempering for 5.5-6 hrs. The treatment raises the tensile strength from 38 to 55 kg./sq. mm., lowers the elongation from 17.5 to 11.0%, and increases hardness from 110 to 170 Brinell for the quenched samples and somewhat less for normalized specimens. Two other treatments were found suitable.

J. D. Gat

KHOROSHEV, I.I.

Effect of isothermic preheating on the formation of graphitization centers during annealing of cast iron. Dokl.AN SSSR 94 no.1:45-48 Ja '54. (MLRA 7:1)

1. Rostovskiy na Donu institut sel'skokhozyaystvennogo mashinostroyeniya. (Cast iron--Metallurgy)

KHOROSHEV, I.I.

Effect of the annealing rate of the formation of graphitization centers in modified wrought iron. Dokl.AN SSSR 94 no.2:221-223 Ja '54. (MLRA 7:1)

1. Rostovskiy na Donu institut sel'skokhozyaystvennogo mashinostroyeniya. (Wrought iron--Metallurgy)

137-58-4-7604

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 177 (USSR)

AUTHOR: Khoroshev, I. I.

TITLE: An Accelerated Annealing Procedure for Malleable Iron at the Rostsel'mash Works (Uskorennyy ozhig kovkogo chuguna na zavode Rostsel'mash)

PERIODICAL: V sb.: Progressivn. metody proiz-va v mashinostr. Rostov-na-Donu, 1957, pp 149-165

ABSTRACT: The graphite nucleation mechanism and the nature of cementite are examined. The graphitization (G) process was investigated in 40 lots of iron (I) (appx. 3000 samples), smelted in a cupola, an electric furnace, and by the duplex process at the Rostsel'mash and "Krasnyy Aksay" Plants, and an original theory of the G process is developed. The conclusion is presented that G nucleation in white I occurs as the result of plastic deformations in the cementite which constitutes a solid solution of variable composition. These deformations lead to the development of second-order stresses, distortion of the atomic crystalline lattice of the cementite, and in changes in its capacity to act as a solvent. As a result, areas oversaturated with carbon appear in the cementite

An Accelerated Annealing Procedure (cont.)

grains, and this leads to precipitation of submicroscopic particles of free excess C on the phase boundaries. It is these which serve as nuclei for further G. Subsequent G involves diffusion processes, in which the decisive function is that of Si which accelerates and intensifies diffusive influx of C from the solution to the G nuclei. All these processes occur in a relatively narrow temperature interval, of the order of 250-420°C. Therefore, if the length of time during which I is at this temperature before annealing is increased, conditions are more favorable to further intensive G. These concepts served as the basis of an accelerated annealing procedure tested and introduced at the plant. A distinctive characteristic of the procedure is very slow heating in the 250-420° interval (≥5 hrs). This period is regarded as one of low-temperature preheat treatment. The total duration of heating up to 900° is 12 hours, while first-stage G at 900-1200-900° lasts 16 hours, intermediate G at 900-760° is for 9 hours, second-stage G at 760-680° is 3 hours, further cooling to the temperature at which the metal is unloaded, namely, 520°, is for 4 hours (45 hours total). The mechanical properties of the resultant I meet the requirements of the GOST (All-Union State Standards) for KCh 35-10 I. Some modification of the existing furnaces at the plant which would permit a more precise maintenance of the low-temperature heat treatment regime arrived at theoretically, should afford an even greater reduction in overall duration of anneal. Bibliography: 20 references.

S. P.

Card 2/2

1. Cast iron--Heat treatment 2. Cast iron--Graphitization--Analysis

SOV/137-58-9-19386

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 177 (USSR)

AUTHOR: Khoroshev, I.I.

TITLE: Mechanics of the Formation of Graphitization Centers in White Iron (Mekhanizm vozniknoveniya tsentrov grafitizatsii v belom chugune)

PERIODICAL: Tr. Rostovsk.-n/D. in-ta. s.-kh. mashinostr., 1957, Nr 8, part 1, pp 277-287

ABSTRACT: Various theories of graphitization are cited with the reservation, that none of them possess exhaustive experimental corroboration. The conclusion is drawn on experimental basis, that the centers of graphitization appear in the process of heating of white iron for its malleablizing and that their number depends on the rate of the passing through the 250-420°C range. The main stimulus for the graphitization is the formation of plastic deformations in the solid cementite solution, producing stresses of the second order, deformation of the cementite lattice, and a modification in its dissolving capacity, which in turn causes the generation of centers, which are submicroscopic graphite inclusions that separate out along the phase boundaries,

Card 1/2

SOV/137-58-9-19386

Mechanics of the Formation of Graphitization Centers in White Iron

at the points of extreme supersaturation of cementite with carbon. Bibliography: 15 references.

S.P.

1. Iron--Structural analysis 2. Graphite--Metallurgical effects

Card 2/2

KHOROSHEV, I. I

SOV/137-58-8-17354 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 166 (USSR)

AUTHOR: Khoroshev, I.I

TITLE: The Theoretical Basis for the Rapid Annealing of Wrought Iron (Teoreticheskiye osnovy uskorennogo otzhiga kovkogo chuguna)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Doctor of Technical Sciences, presented to the In-t metallurgii AN SSSR (Institute of Metallurgy, Academy of Sciences, USSR), Moscow, 1958

ASSOCIATION: In-t metallurgii AN SSSR (Institute of Metallurgy, Academy of Sciences, USSR), Moscow

1. Iron—Heat treatment

Card 1/1

AUTHOR: Gulyayev, B.B. SOV/24-58-4-37/39

TITLE: Conference on Crystallisation of Metals (Soveshchaniye po kristallizatsii metallov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 153 - 155 (USSR)

ABSTRACT: This conference was held at the Institut mashinovedeniya AN SSSR (Institute of Mechanical Engineering of the Ac.Sc. USSR) on June 28-31, 1958. About 400 people participated and the participants included specialists in the fields of foundry, metallurgy, crystallography, physics, welding, heat, physical chemistry, mathematical physics and other related subjects. In addition to Soviet participants, foreign visitors included Professor D. Czikl (East Germany) and N.I. Chvorinov (Czechoslovakia). This conference on crystallisation of metals was the fourth conference relating to the general problem of the theory of foundry processes.

Conference on Crystallisation of Metals SOV/24-58-4-37/39

Crystallisation of Cast Iron. I.A. Stapranov and N.V. Petrova, in their paper "Investigation of the Crystallisation of magnesium-inoculated iron", reported on experimental data relating to the conditions of solidification and the structure of castings made of magnesium-inoculated iron; they presented a theory of crystallisation of magnesium-inoculated iron. B.S. Mil'man, in his paper "Investigation of the Process of Formation of Spheroidal Graphite in Iron", considered the influence of various factors and characteristics of the metal on the formation of graphite inclusions. Professor D. Czikl (East Germany) presented a paper on crystallisation of graphite in cast iron, which was illustrated by extensive metallographical information. Ya.N. Malinochka and A. Zhukov dealt with the problem of intracrystalline liquation of silicon and its influence on the structural diagram of cast iron. I.I. Khoroshev and I.Ye. Lev dealt with the mechanism of germination of centres of crystallisation of graphite in castings made of white iron and the influence of the speed of crystallisation on the distribution of alloying elements between the individual phases of iron-carbon alloys. I.V. Salli proposed a method of hardening of alloys from the liquid state using an extremely high speed of cooling; investigations relating to this method enabled conservation of saturated solutions of carbon in iron which correspond to the liquid state. N. Ya. Khrapkovskiy dealt with the investigation of crystallisation, the primary structure and the properties of quasi-eutectic grey iron.

Card 1/3

KHOROSHEV, I.I.

Effect of the rate of white cast iron ingot cooling on the mechanism of the formation of graphitization centers during annealing. Izv.vys.ucheb.zav.; chern.met. no.6:140-145 '60. (MIRA 13:7)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.
(Cast iron--Metallography)
(Annealing of metals)

KHOROSHEV, I.I.

Effect of peening on the mechanism of the formation of graphitization centers during hot and cold deformation of white cast iron. Izv.vys.ucheb.zav.; chern.met. no.7:180-183 '60. (MIRA 13:8)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

(Cast iron--Cold working)
(Deformations (Mechanics))

KHOROSHEV, I.I.

Mechanism of the nucleation of graphitization centers during the low-temperature heating of white iron castings. Izv. vys. ucheb. zav.; chern met. 5 no.1:171-176 '62. (MIRA 15:2)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

(Cast iron—Metallography)
(Annealing of metals)

KHOROSHEV, I.I., doktor tekhn.nauk

Effect of hardening by low-temperature heating of cast unannealed carbon steel. Metalloved.i term.obr.met. no.2:11-14 F '62. (MIRA 15:3)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

(Steel—Hardening)

HOROSEV, I.I. [Khoroshev, I.I.]

Mechanism of the formation of graphitization centers in the low-temperature annealing of white iron castings. Analele metalurgie 16 no.3:65-71 Jl-S '62.

KHOROSHEV, I.I.; SHAPIRO, A.A.; FROLOV, S.F.; TOPUZ, V.A.

Redesign of electric holding furnaces for the annealing of malleable cast iron. Lit. proizv. no.5:12-14 My '62. (MIRA 16:3)
(Electric furnaces) (Annealing of metals)

KHOROSHEV, I.I.

Effect of chemical composition on the formation of graphitization centers during low-temperature heating of white cast iron. Izv. vys. ucheb. zav.; chern. met. 6 no.6:148-150 '63. (MIRA 16:8)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.
(Cast iron—Analysis) (Annealing of metals)

KHOROSHEV, I.I.

Investigating the mechanism of nucleus formation of graphite centers during the heating of white cast iron in hot media. Izv. vys. ucheb. zav.; chern. met. 6 no.12:158-162 '63. (MIRA 17:1)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

KHOROSHEV, I.I.; PERFISHIN, V.S.

Modifying effect of boric acid and ferrosilicon boral in the production of malleable cast iron castings. Izv. vys. ucheb. zav.; chern. met. 7 no.2:153-156 '64.
(MIRA 17:3)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

KHOROSHEV, I.I., doktor tekhn. nauk, prof.; PERFISHIN, V.S., inzh.

Effect of aluminum, boron and bismuth on the formation of graphitization centers, acceleration of annealing and engineering properties of malleable cast iron. Izv. vys. uchob. zav.; mashinostr. no.2:146-155 '64. (MIRA 17:5)

1. Rostovskiy institut sel'skokhozyaystvennogo mashinostroyeniya.

SALIMOV, A.; MYUNSTER, N.; KHOROSHEV, K.

Using an oscillograph in testing electric equipment of motor vehicles. Avt. transp. 42 no.10:26-27 O '64.
(MIRA 17:11)

LOGINOV, Z.; KHOROSHEV, M.

A pamphlet for builders and bank economists ("Planning the reduction of labor costs in housing construction" by A.Vinogradov. Reviewed by Z.Loginov, M.Khoroshev). Fin.SSSR 21 no.6:89-91 Je '60. (MIRA 13:6)

(Construction industry--Costs)
(Vinogradov, A.)

KHOROSHEV, N.

ARKHANGEL'SKIY, N., professor; KHOROSHEV, N., dotsent.

Manufacturing fabrics with low shrinkage features. Sov. torg. no.7:53-54 Jl '57. (MLRA 10:9)
(Textile industry)

KHROSHEV, NIKITA IVANOVICH

PALLADOV, Sergey Semenovich; KHOROSHEV, Nikita Ivanovich; GRANOVSKAYA, I.M., redaktor; SUDAK, D.M., tekhnicheskiy redaktor

[Commercial guide to textile fabrics] Tovarovedenie tekstil'nykh tovarov. Moskva, Gos. izd-vo torgovoi lit-ry, 1955. 192 p.
(Textile fabrics) (MLRA 8:7)

KHOROSHEV, O.V., dotsent; KOLOTOVA, I.S., starshiy prepodavatel

Investigating the laws of motion of skip hoists along skip dump tracks. Izv.vys.ucheb.zav.; gor.zhur. no.5:129-142 '59.
(MIRA 13:5)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy gornoy mekhaniki.
(Hoisting machinery)

NEDIN, V.V., professor, doktor tekhnicheskikh nauk; KHOROSHEV, O.V., gornyy inzhener.

Laboratory and field investigations of the effectiveness of ventilation for controlling the dust in mining. Bor'ba s sil. 2:132-149 '55. (MLRA 9:5)

1. Krivoroshskiy gornorudnyy institut (for Khoroshev)
(MINE VENTILATION) (DUST REMOVAL)

Khoroshev, E.V.

STESHENKO,A.I.; ZHURAVLEV,S.P.; TARAN,P.N.; KUDRYASHOV,K.V.; ZHUKOV,M.N.; HELYY,P.L.; KADYRVAYEV,R.A.; PASTUSHKIN,P.M.; SHOSTAK,A.G.; OSTROUKHOV,A.I.; POLOMSKIY,M.I.; OSTROUKHOV,I.I.; LUGOVSKIY,S.I.; SEMENKO,P.I.; KHOROSHEV,O.V.; IBRAYEV,Sh.I.; NEYKOV,O.D.

"Dust control in the mines of Krivoy Rog Basin." V.V.Nedin. Reviewed by A.I.Steshenko and others. Gor.zhur. no.9:61-62 S '55. (MLRA 8:8)

(Krivoy Rog--Mine dusts) (Nedin,V.V.)

15-57-10-14973

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 276 (USSR)

AUTHOR: Khoroshev, O. V.

TITLE: The Selection of Axial Ventilators According to Dimensionless Characteristics (K voprosu o vybore osevykh ventilyatorov po bezrazmernym kharakteristikam)

PERIODICAL: Sb. tr. Krivorozhsk. gornorudn. in-t. 1956, Nr 5, pp 149-155

ABSTRACT: The correct selection of a ventilator is important for securing normal ventilation in a mine. The ventilator placed in a mine should satisfy the following requirements: reserve production of at least 20 percent of that designed for maximum demands in the mine and reliable operation during the entire life of the mine; minimum requirement for electrical power. Operation in mines with the most advantageous ventilators brings about considerable decrease in expenditures for ventilation, one of the chief users

Card 1/3

of electrical power. In the post-war period ventilation has been accomplished chiefly by using axial ventilators, but the existing methods of choosing them for specific mines does not always secure satisfaction of the requirements enumerated above. In existing methods the diameter of the ventilator fan is calculated according to the ratio of the minimum equivalent opening in the mine to the maximum opening. For the entire operating time of the mine this is rounded off to an approximate standard size, and then a ventilator with the maximum rpm for this diameter is employed. Then, for this diameter of fan and number of revolutions, as found, the angle of setting the blades of the fan, the efficiency, and other values defining the working conditions of the ventilator are determined by dimensionless characteristics. For example, in selecting ventilators it is shown that their choice for a mine should be made by calculating several variants. Having determined the diameter of the fan by the general method, one should take the nearest larger and smaller diameters of fans, calculate the work of these ventilators during their maximum and their nearest minimum rpm. Then, only by comparing

MARTYNOV, Vitaliy Kos'movich; KHOROSHEV, Oleg Vasil'yevich; YAKHONTOV, A.D., red.; SMOLDYREV, A.Ye., red.izd-va; MIKHAYLOVA, V.V., tekhn.red.

[Operator of mine drainage units; a textbook for on-the-job training of workers] Mashinist shakhtnykh vodootlivnykh ustanovok; uchebnoe posobie dlia proizvodstvenno-tekhnicheskogo obucheniia rabochikh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 200 p. (MIRA 12:4)
(Mine pumps)

NEDIN, V.V., prof., doktor tekhn.nauk; KHOROSHEV, O.V., dotsent, kand.tekhn.nauk

Method for calculating the ventilation of a group of consecutively placed blind workings. Bor'ba s sil. 3:118-123 '59.
(MIRA 12:9)

(MINE VENTILATION)

39097
S/169/62/000/006/079/093
D228/D304

3.1810

AUTHOR: Khorosheva, O. V.

TITLE: Space-time distribution of auroras in the Arctic in the winter of 1957/1958

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 22-23, abstract 6G136 (V sb. Polyarn. siyaniya i svecheniye nochn. neba, no. 7, M., AN SSSR, 1961, 14-21)

TEXT: The aim of the work is to clear up the question of the size of the longitudinal interval which is simultaneously covered by an aurora. Observation data, obtained at 10 Soviet stations near the auroral-maximum zone, were analyzed statistically. The observations were made by means of full sky cameras. The criterion for the absence of radiances at a given station was the absence of visible brightness contrasts at the time of clear skies, i.e. when there are stars on the photograph. The network of stations is sufficiently extensive. With allowance for the camera vision angle the network spans 180° of longitude, i.e. observations can simultaneously cover

Card 1/3

39097
S/169/62/000/006/079/093
D228/D304

the whole of the earth's night-side. This guarantees the material's homogeneity, since all stations operate identical apparatus with film of the same sensitivity, which is then developed under the same conditions in a strictly constant process. When processing the data, the time of observation at each station was split into half-hourly intervals. It was assumed that a radiance had occurred if it was present in the given interval for not less than 5 min. The stations were split into 5 groups; each of these included all stations with a longitudinal difference of about 10°. Within a group the stations were considered to be interchangeable. The correlation in the appearance of auroras in the middle longitudes of these groups was investigated. The results of the observations show that for the period under consideration radiances are simultaneously present in two longitudes on 95% of the occasions. This result does not depend on the difference of the longitudes under correlation and remains constant for all areas investigated in the Arctic. When studying the spreading of radiances throughout the station chain, it was established that the introduction of a continuous chain only reduces the duration of simultaneous observations in all longitudinal

KHOROSHEVA, O.V.

Space and time distribution of auroras and their relationship with high-latitude geomagnetic disturbances. Geomag. i aer. 1 no.5: 695-701 S-O '61. (MIRA 15:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, Institut yadernoy fiziki.
(Auroras) (Magnetism, Terrestrial)

KHOROSHEV, O.V., dotsent; BOYEV, S.N., starshiy prepodavatel'

Aerodynamic study of a diametric fan. Izv.vys.ucheb.zav.;gor.zhur. 6 no.11:128-130 '63. (MIRA 17:4)

1. Tashkentskiy politekhnicheskiy institut. Rekomendovana kafedroy gornoy mekhaniki.

KHOROSHEV, O.V., kand. tekhn. nauk; SPRYGIN, I.L., inzh.; PRITYKIN, M.I.; BOYEV, S.N.

Use of diametral fans for partial aeration. Gor. zhur. no.9: 72 S '65. (MIRA 18:9)

1. Tashkentskiy politekhnicheskiy institut (for Khoroshev, Sprygin).
2. Altyn-Topkanskiy svintsovo-tsinkovyy kombinat (for Pritykin).
3. Sverdlovskiy gornyy institut (for Boyev).

MAYOROV, A.N.; KHOROSHEV, V.N.; SOSONKO, A.M.

Gamma defectoscope with a remote control device. Stroi. truboprov. 10 no. 11:34 N '65. (MIRA 18:12)

KHOROSHEV, V.T.

Work methods of the Kokand Oil Mill. Masl.-zhir.prom. 20 no.4:3;-32 '55. (MLRA 8:9)

1. Kokandskiy maslozavod
(Kokand--Oils and fats)

KHOROSHEV, Ye.N.

KONYUSHENKO, A.T., inzhener; YUZEFOVICH, A.S., inzhener; BASHKIROVA, Ye.I., inzhener; KARAMYSHEV, F.V., inzhener; DYATLOV, B.F., inzhener; KHOROSHEV, Ye.N., inzhener.

Argon-arc welding of high-alloy steel pipes. Stal' 16 no.2: 151-155 F '56. (MLRA 9:5)

(Pipe, Steel--Welding)

LITVINENKO, A. U.; DODATKO, A. D.; KHOROSHEVA, D. P.

Some characteristics of the weathering crust of ultrabasic rocks of the middle Dnieper Valley. Dokl. AN SSSR 147 no.6: 1444-1447 D '62. (MIRA 16:1)

1. Dnepropetrovskaya geologicheskaya ekspeditsiya Ukrainskogo nauchno-issledovatel'skogo geologorazvedochnogo instituta. Predstavleno akademikom N. M. Strakhovym.

(Dnieper Valley—Petrology)

LITVINENKO, A.U.; DODATKO, A.D.; KHOLMOGOREVA, D.P.

Characteristics of the structure, composition and minerals of the weathering surface on ultrabasic rocks in the middle Dnieper Valley. Kora vyvetr. no.6:125-138 '63.
(MIRA 17:9)

1. Ukrainskiy nauchno-issledovatel'skiy geologo-razvedochnyy institut, Dnepropetrovskaya geologicheskaya ekspeditsiya.

LITVINENKO, A.I. [Lytvynenko, A.U.]; KHOROSHEVA, D.P.

Mineralogy of the weathering surface of ultrabasic rocks in the region of the Sursk magnetic anomalies of the middle Dnieper Valley. Geol. zhur. 23 no.4:25-38 '63 (MIRA 17:7)

1. Dnepropetrovskaya ekspeditsiya Ukrainskogo nauchno-issledovatel'skogo gornorudnogo instituta.